CHAPTER 2
General Information

SNOWMOBILE NUMBER DESIGNATIONS 2.2
MODEL NUMBER DESIGNATION 2.2
VEHICLE IDENTIFICATION NUMBER (VIN) 2.3
TUNNEL DECAL 2.3
VIN NUMBER DESIGNATION 2.3
PUBLICATION PART NUMBERS 2.4
2011 PUBLICATIONS 2.4
2010 PUBLICATIONS 2.4
2009 PUBLICATIONS 2.5
2008 PUBLICATIONS 2.6
2007 PUBLICATIONS 2.6
SERVICE / SAFETY BULLETINS 2.7
ENGINE DATA FORMULAS 2.9
COMPRESSION RATIO 2.9
COMPRESSION RATIO EXAMPLE 2.10
HEAD CC REMOVAL EXAMPLE 2.10
PORT OPENING DURATION 2.10
TORQUE CONVERSION 2.11
US TO METRIC 2.11
GENERAL REFERENCE 2.12
STANDARD BOLT TORQUE SPECIFICATION 2.12
FUEL / OIL PREMIX RATIOS 2.12
GASOLINE VOLATILITY 2.12
SAE TAP DRILL SIZES 2.13
METRIC TAP DRILL SIZES 2.13
DECIMAL EQUIVALENTS 2.13
MEASUREMENT CONVERSION CHART 2.14
PISTON WASH / SPARK PLUG READING 2.14
SERVICE PRECAUTIONS 2.15
GENERAL PRECAUTIONS 2.15

SNOWMOBILE NUMBER DESIGNATIONS

Model Number Designation

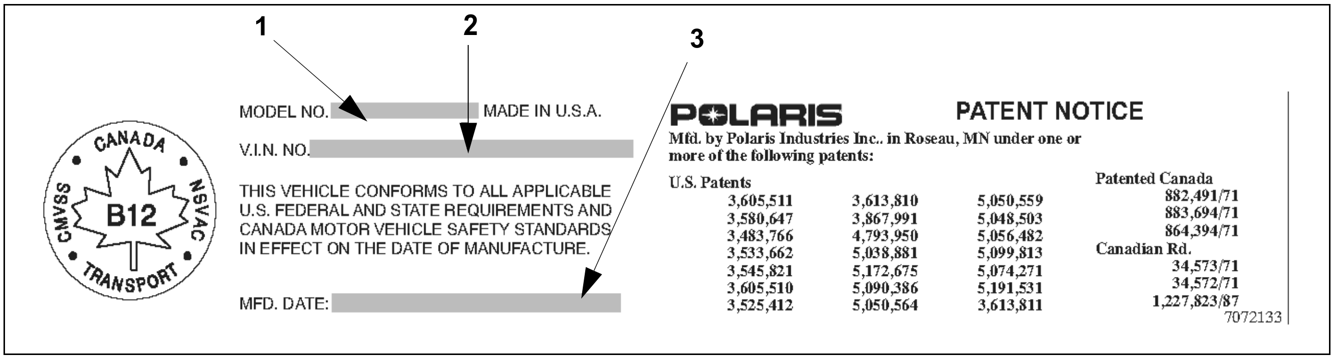
Example: S08MX6FS

GROUP	MODEL YEAR	MODEL LINE	MODEL TYPE	ENGINE MODIFIER		VIN IDENTIFIER	OPTION IDENTIFIER
1st digit	2/3rd digit	4th digit	5th digit	6th digit*	7th digit*	8th digit	9th digit**
S	08	M	X	6	F	S	
S=Snow	08 = 2008 09 = 2009 10 = 2010 11 = 2011 12 = 2012 13 = 2013 14 = 2014 15 = 2015	M=Race IQ N=Edge P= IQ S=Gen II W=Mini Indy	B = Basic D = LX E = Dragon SP G = 155 RMK H = 163 RMK J = 136 RMK K = 144 RMK L = 146 Assault M = 155 STD. N = 163 STD. P = Performance R = Switchback S = Switchback Prem. T = Touring U = Utility X = Race Y = Touring LTD.	1A=121 F/C OHV 4 Cycle Fuji 3A=340 F/C Piston Port 4B=488 L/C Piston Port 5B=544 F/C Cylinder Reed 6F=600 EV L/C Case Reed 6H=600 EV L/C Case Reed CFI 6J = 600 EV L/C Case Reed Race 6K = 600 EV L/C Case Reed CFI - DC-CFI (MY10-11 600 WT = 600 2+2) 7E=750 Four Stroke 7F=750 Four Stroke Turbo 7J=700 EV L/C Case Reed CFI 8E / 8F = 794 EV L/C Case Reed CFI		E=Europe M=Military R=Rolling Chassis S=Standard	Option L = Electric Start
*=digits that would transfer to 17 digit VIN and are used in digits 4-8 respectively **=9th digit will be used on color/featured versions of models (not including the base) First 3 digits and 9th digit are used in the model number only. They are not used with the 17 digit VIN.							

VEHICLE IDENTIFICATION NUMBER (VIN)

Tunnel Decal

The Tunnel Decal has the Model Number (1), V.I.N. Number (2), and the Manufactured Date (3).These numbers should be referred to in any correspondence regarding warranty, service or replacement parts.The machine model and V.I.N. number identification decal is located on the right front side of the tunnel. The V.I.N (2) number is permanently stamped into the tunnel. The model number is embossed on the decal.



VIN Number Designation

World Mfg. ID			Vehicle Descriptors						Vehicle Identifiers							
			Body Style	Type	Engine Size	Engine Modifier	Series	Check Digit	Model Year	Mfg. Location	Individual Serial No.					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
S	N	1	S	B	5	B	S	0	2	2	0	0	0	0	0	0

PUBLICATION PART NUMBERS

2011 Publications

MODEL	OWNER'S MANUAL	SUPPLEMENT	PARTS BOOK (ONLINE PART MANUALS AVAILABLE ONLINE AT WWW.POLARISINDUSTRIES.COM)
550 IQ Shift	9922858	9923237	9922860
550 Shift 136		9923236	9922875
550 IQ LXT		9923238	9922882
600 IQ Shift	9922861	9922862	9922863
600 Shift 136		9922877	9922878
600 Switchback 136		9922879	9922880
600 IQ LXT	9922883	9922884	9922885
600 Widetrak IQ	9922890	9922891	9922892
600 RMK 144/155	9922868	9922869/9922871	9922870

2010 Publications

MODEL	OWNER'S MANUAL	SUPPLEMENT	PARTS BOOK (ONLINE PART MANUALS AVAILABLE ONLINE AT WWW.POLARISINDUSTRIES.COM)
550 IQ Shift	9922316	9922317	9922318
600 IQ Shift	9922322	9922320	9922321
600 LX		9922303	9922324
600 Switchback		9922323	
600 Dragon Switchback		9922325	9922326
600 IQ Touring	9922288	9922289	9922291
600 Widetrak IQ	9922596	9922308	9922309
800 IQ	9922322	9922350	9922351
800 Dragon IQ		9922298	9922299
800 Switchback		9922330	9922331
800 Dragon Switchback		9922325	9922326
600 RMK 144	9922332	9922338	9922339
600 RMK 155		9922344	
700 RMK 155		9922649	9922650
800 RMK 144		9922340	9922341
800 RMK 155		9922348	
800 RMK Assault		9922342	9922343
800 Dragon RMK 155		9922335	9922336
800 Dragon RMK 163		9922337	

2009 Publications

<table>
<tr><th>MODEL</th><th>OWNER'S MANUAL</th><th>SUPPLEMENT</th><th>PARTS BOOK
(ONLINE PART MANUALS AVAILABLE ONLINE AT WWW.POLARISINDUSTRIES.COM)</th></tr>
<tr><td>550 IQ Shift</td><td>9921597</td><td>9921598</td><td>9921982</td></tr>
<tr><td>600 IQ Shift</td><td>9921599</td><td>9921601</td><td>9921983</td></tr>
<tr><td>600 IQ</td><td rowspan="5">9921220</td><td>9921603</td><td>9921984</td></tr>
<tr><td>800 IQ</td><td>9921606</td><td>9921986</td></tr>
<tr><td>600 Dragon SP</td><td>9922117</td><td>9922118</td></tr>
<tr><td>800 Dragon SP</td><td>9921612</td><td>9922119</td></tr>
<tr><td>600 Switchabck</td><td>9921928</td><td>9921994</td></tr>
<tr><td>600 IQ Touring</td><td>9921709</td><td>9921644</td><td>9921998</td></tr>
<tr><td>600 IQ Shift 136</td><td rowspan="4">9921220</td><td>9921638</td><td>9922120</td></tr>
<tr><td>600 Dragon Switchback</td><td>9921642</td><td>9921994</td></tr>
<tr><td>800 Switchback</td><td>9921641</td><td rowspan="2">9921997</td></tr>
<tr><td>800 Dragon Switchback</td><td>9921643</td></tr>
<tr><td>600 RMK Shift 144</td><td rowspan="8">9921613</td><td>9921616</td><td rowspan="2">9921988</td></tr>
<tr><td>600 RMK Shift 155</td><td>9921632</td></tr>
<tr><td>700 RMK 155</td><td>9921633</td><td>9922151</td></tr>
<tr><td>800 RMK Shift 144</td><td>9921629</td><td>9921989</td></tr>
<tr><td>800 RMK Assault</td><td>9921931</td><td>9921991</td></tr>
<tr><td>800 RMK 155</td><td>9921634</td><td rowspan="3">9921987</td></tr>
<tr><td>800 Dragon RMK 155</td><td>9921614</td></tr>
<tr><td>800 Dragon RMK 163</td><td>9921615</td></tr>
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2008 Publications

MODEL	OWNER'S MANUAL	SUPPLEMENT	PARTS BOOK (ONLINE PART MANUALS AVAILABLE ONLINE AT WWW.POLARISINDUSTRIES.COM)
IQ Shift	9921427	9921067	9921068
600 RMK 144	9921102	9921108	9921112
600 RMK Shift 155		9921545	
600 Dragon IQ	9921065	9921069	9921075
600 Switchback		9921076	9921081
600 Dragon Switchback			
600 IQ LX		9921072	9921070
600 IQ Touring		9921082	9921083
600 RMK 155	9921102	9921109	9921549
700 IQ	9921065	9921071	9921070
700 Dragon IQ			
700 Switchback		9921078	9921081
700 Dragon Switchback			
700 RMK 155	9921102	9921104	9921549
700 Dragon RMK 155 / 163		9921104 / 9921106	
800 Dragon RMK 155 / 163		9921301 / 9921107	9921114

2007 Publications

MODEL	OWNER'S MANUAL	SUPPLEMENT	PARTS BOOK (ONLINE PART MANUALS AVAILABLE ONLINE AT WWW.POLARISINDUSTRIES.COM)
600 HO IQ	9920459	9920460	9920461
600 HO Switchback		9920597	9920598
600 HO RMK	9920476	9920477 / 9920483	9920478
600 HO IQ CFI	9920464	9920487	9920466
600 HO Switchback CFI		9920495	9920496
600 HO IQ LX CFI		9920465	9920466
600 HO IQ Touring CFI		9920501	9920502
700 HO IQ Dragon	9920648	9920910	9921200
700 HO RMK Dragon	9920476	9920484	9920912

Service / Safety Bulletins

NOTE: Polaris dealers should use Unit Inquiry at www.polarisdealers.com to determine affected models.

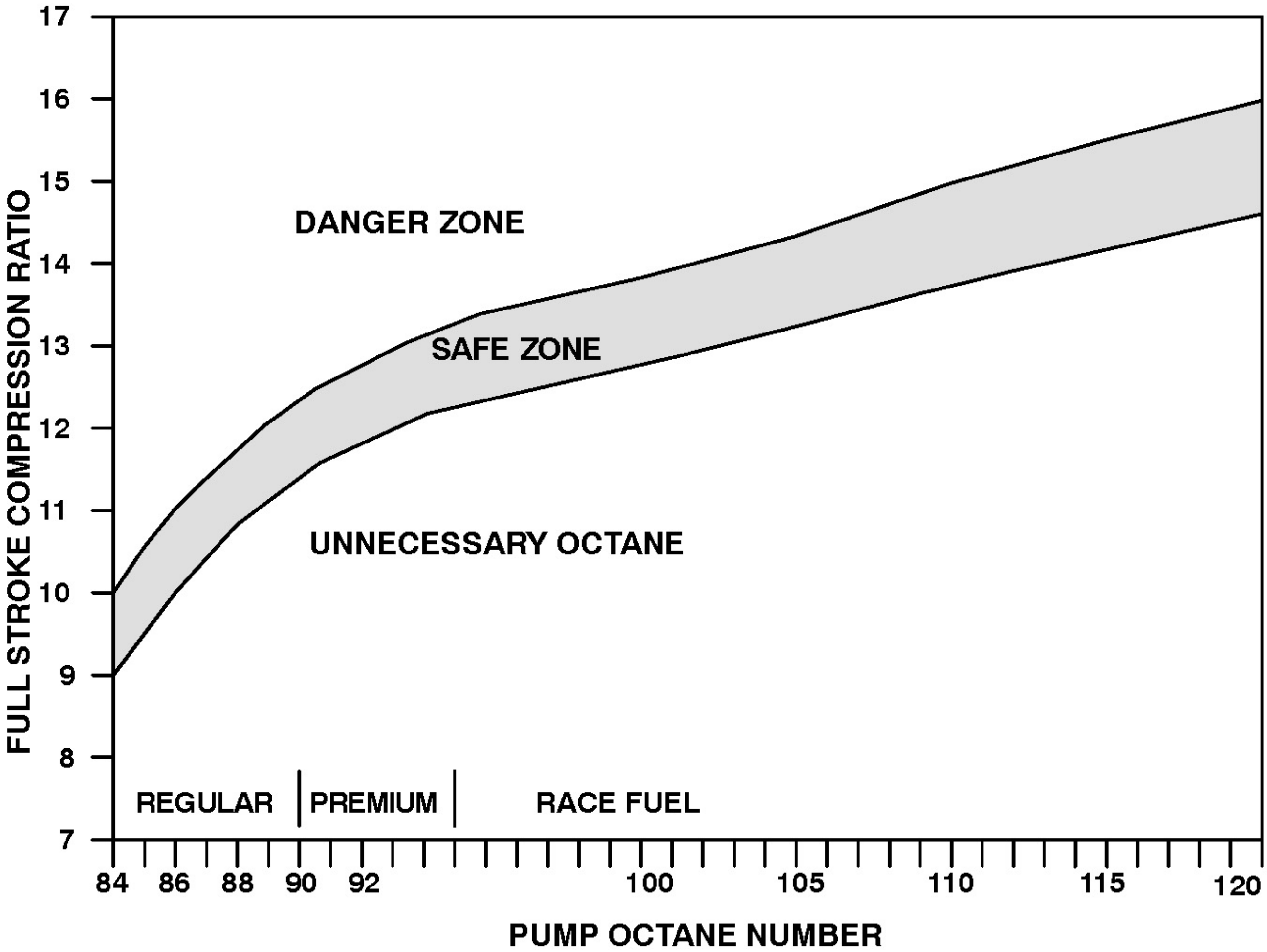
BULLETIN	MODEL/YEAR	DESCRIPTION
S-06-13	600 HO IQ LX CFI/2007 600 HO IQ CFI/2007 600 HO IQ TOURING CFI/2007 600 HO SWITCHBACK CFI/2007	2007 600 CFI Throttle Body Cooling Hose Length Reduction
S-06-14A/B	600 HO IQ LX CFI/2007 600 HO IQ CFI/2007 600 HO IQ TOURING CFI/2007 600 HO SWITCHBACK CFI/2007	2007 600 CFI Oil Pump/Throttle Body Synchronization Inspection
S-07-01	IQ Dragon/2007 RMK Dragon/2007	2007 700 CFI Fuel Vapor Separator/PFA Wiring Inspection
S-07-05A/B/C	IQ Dragon/2007 RMK Dragon/2007	2007 700 CFI Dragon ECU Reflash/Thermostat Update
S-07-09O	600 HO Switchback/2007	(Safety Bulletin) Fuel Tank Replacement
S-07-10	600 HO IQ LX CFI/2007 600 HO IQ CFI/2007 600 HO IQ TOURING CFI/2007 600 HO SWITCHBACK CFI/2007	2007 600 CFI ECU Reflash
S-07-13A/B	600 HO IQ LX CFI/2007 600 HO IQ CFI/2007 600 HO IQ TOURING CFI/2007 600 HO SWITCHBACK CFI/2007	2007 600 CFI Throttle Cable Bracket
S-07-15A/B	IQ Shift/2008 600 RMK 144/2008 600 RMK Shift 155/2008 600 Dragon IQ/2008 600 Switchback/2008 600 Dragon Switchback/2008 600 IQ LX/2008 600 IQ Touring/2008 600 RMK 155/2008 700 IQ/2008 700 Dragon IQ/2008 700 Switchback/2008 700 Dragon Switchback/2008 700 RMK 155/2008 700 Dragon RMK 155/2008 700 Dragon RMK 163/2008	(Select Models)2008 IQ Snowmobile Oil Tank Sender Inspection/ Replacement

BULLETIN	MODEL/YEAR	DESCRIPTION
S-07-16	IQ Shift/2008 600 RMK 144/2008 600 RMK Shift 155/2008 600 Dragon IQ/2008 600 Switchback/2008 600 Dragon Switchback/2008 600 IQ LX/2008 600 IQ Touring/2008 600 RMK 155/2008 700 IQ/2008 700 Dragon IQ/2008 700 Switchback/2008 700 Dragon Switchback/2008 700 RMK 155/2008 700 Dragon RMK 155/2008 700 Dragon RMK 163/2008 800 Dragon RMK 155/2008 800 Dragon RMK 163/2008	(Select Models) Hand Warmer Solder Joint Shorting to Ground
S-08-02A/B	IQ Shift/2008	2008 IQ Shift Speedometer Cable Inspection/Replacement
S-08-05	800 IQ Switchback/2009	(Select Models) 2009 800 IQ Switchback Drive Clutch Replacement
S-09-01/A	600 IQ Shift 136/2009 600 RMK Shift 144/2009 600 RMK Shift 155/2009	(Select Models) 2009 600 IQ Shift 136 Driven Clutch Update and 600 IQ Shift 136 / 600 Shift RMK 144 / 600 Shift RMK 155 Reflash
S-09-06/A/B/C	600 HO IQ LX CFI/2007 600 HO IQ CFI/2007 600 HO IQ TOURING CFI/2007 600 HO SWITCHBACK CFI/2007 600 IQ LX/2008 600 Dragon IQ/2008 600 Switchback/2008 600 Dragon Switchback/2008 600 IQ Touring/2008 700 IQ/2008 700 Dragon IQ/2008 700 Switchback/2008 700 Dragon Switchback/2008 600 Touring CFI/2009	(Safety Bulletin) 2007 – 2009 IQ CFI Fuel Hose Routing Inspection / Fuel Hose Replacement
S-09-07	800 RMK Assault/2009	(Safety Bulletin) 2009 IQ 800 RMK Assault Rail Tip Fastener Replacement
S-09-08/A/B	800 IQ 121/2008-2009 800 IQ Dragon SP/2009 800 IQ Switchback/2009 800 IQ Dragon Switchback/2009	2008-2009 800 IQ 121/IQ Switchback Engine Durability Update Kit
S-09-09/A	800 Dragon RMK 155/2008 800 Dragon RMK 163/2008 800 RMK 144/2009 800 RMK Assault/2009 800 RMK 155/2009 800 Dragon RMK 155/2009 800 Dragon RMK 163/2009	2008-2009 800 RMK Engine Durability Update Kit
S-09-11	600 IQ Widetrak	2010 600 IQ Widetrak Cooling Hoses
S-10-02	600 IQ Widetrak	2010 600 IQ Widetrak ECU Reflash

Use Unit Inquiry located at www.polarisdealers.com to determine affected models and which bulletins have been applied or are outstanding.

ENGINE DATA FORMULAS

Compression Ratio



$$R = \frac{(IHV + DISP)}{IHV}$$

$$I = \frac{S}{(DISP \times 25.4)}$$

$$DISP = \frac{(PI \times B^2 \times S)}{4}$$

IHV= INSTALLED HEAD VOLUME (cc)
DISP= CYLINDER DISPLACEMENT (cc)
R= COMPRESSION RATIO
S= FULL ENGINE STROKE (cm)
I= INCHES PER cc OF IHV
B= CYLINDER BORE (cm)
PI= 3.1416

Compression Ratio Example

Bore = 6.5cm

Stroke = 6.0 cm

IHV = 17.1cc

Displacement = 3.1416 (PI) x 42.25 (Bore squared) x 6.0 (stroke) / 4 = 199.098cc

Displacement = 199.098cc

R= 17.1 + 199.098 / 17.1 = 12.643 Full Stroke Compression Ratio

To calculate the Effective Compression Ratio, substitute the exhaust port height for the stroke in the formulas above:

Exhaust = 2.95cm (exhaust port height is 29.5mm)

Effective Displacement = 3.1416 (PI) x 42.25 (bore squared) x 2.95 (exhaust port height cm) / 4 = 97.89cc

Effective Displacement = 97.89cc

Effective Compression Ratio = 17.1 (IHV cc) + 97.89 (Effective Displacement cc) / 17.1 (IHV cc) = 6.725

Effective Compression Ratio = 6.725

In order to increase the Full Stroke Compression Ratio to 13.6, how much material do you need to remove from the cylinder head?

You know that: R = IHV + Displacement / IHV, and you want to find out IHV.

Displacement = 199.098cc, and we want R to = 13.6, so then IHV (desired) = Displacement (199.098cc) / R (13.6) - 1 = (12.6)

IHV (desired) = 15.801cc desired IHV to have 13.6:1 Full Compression Ratio

Head cc Removal Example

The total number of cc’s to remove from the head = Old IHV (17.1) - Desired IHV (15.801) = 1.299cc’s

Removed cc’s = 1.299cc’s

I = Stroke (6.0cm) / (Displacement (199.098) x 2.54

I= 0.01186 inches

To find out how much to machine off, multiply the number of cc’s you need to remove by the number of inches to remove per cc.

Thickness to remove = I (0.01186) x 1.299cc = 0.015”

Port Opening Duration

Port open = 81.5° This indicates the degrees after TDC that the exhaust port opens, and also the degrees before TDC that the port closes.

Duration closed = 2 x 81.5 (port open)

Duration closed = 163°

Total Duration = 360°

Duration Open = Total Duration (360) - Duration Closed (163)

360-163=197

Duration Open = 197°

Percent Open = Duration Open (197) / Total Duration (360) x 100

197/360 = 0.54722 x 100 = 54.722

Percent Open = 54.722

TORQUE CONVERSION

US to Metric

ft.lb - Nm

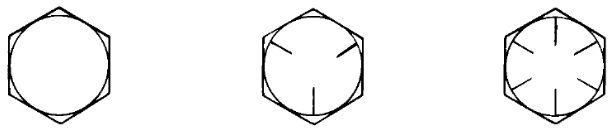
FT.LB	NM	FT.LB	NM
1	1.4	46	62.4
2	2.7	47	63.7
3	4.1	48	65.1
4	5.4	49	66.4
5	6.8	50	67.8
6	8.1	51	69.2
7	9.5	52	70.5
8	10.8	53	71.9
9	12.2	54	73.2
10	13.6	55	74.6
11	14.9	56	75.9
12	16.3	57	77.3
13	17.6	58	78.6
14	19.0	59	80.0
15	20.3	60	81.4
16	21.7	61	82.7
17	23.1	62	84.1
18	24.4	63	85.4
19	25.8	64	86.8
20	27.1	65	88.1
21	28.5	66	89.5
22	29.8	67	90.9
23	31.2	68	92.2
24	32.5	69	93.6
25	33.9	70	94.9
26	35.3	71	96.3
27	36.6	72	97.6
28	38.0	73	99.0
29	39.3	74	100.3
30	40.7	75	101.7
31	42.0	76	103.1
32	43.4	77	104.4
33	44.7	78	105.8
34	46.1	79	107.1
35	47.5	80	108.5
36	48.8	81	109.8
37	50.2	82	111.2
38	51.5	83	112.5
39	52.9	84	113.9
40	54.2	85	115.3
41	55.6	86	116.6
42	57.0	87	118.0
43	58.3	88	119.3
44	59.7	89	120.7
45	61.0	90	122.0

ft.lb - Nm

FT.LB	NM	FT.LB	NM
91	123.4	96	130.2
92	124.8	97	131.5
93	126.1	98	132.9
94	127.5	99	134.2
95	128.8	100	135.6

GENERAL REFERENCE

Standard Bolt Torque Specification



Grade 2 Grade 5 Grade 8

Bolt Size	Threads/In	Grade 2 ft-lb(N-m)	Grade 5 ft-lb(N-m)	Grade 8 ft-lb(N-m)
1/4	20	5 (7)	8 (11)	12 (16)
1/4	28	6 (8)	10 (14)	14 (19)
5/16	18	11 (15)	17 (23)	25 (35)
5/16	24	12 (16)	19 (26)	29 (40)
3/8	16	20 (27)	30 (40)	45 (62)
3/8	24	23 (32)	35 (48)	50 (69)
7/16	14	30 (40)	50 (69)	70 (97)
7/16	20	35 (48)	55 (76)	80 (110)
1/2	13	50 (69)	75 (104)	110 (152)
1/2	20	55 (76)	90 (124)	120 (166)
ft-lb X 1.356 = N-m N-m X.7376 = ft-lb				

Fuel / Oil Premix Ratios

Fuel (Gallons)	20:1 Ratio (Ounces of Oil)	40:1 Ratio (Ounces of Oil)
1	6.4	3.2
5	32	16
10	64	32

Formula:

- 1 Gallon = 128 Ounces
- 128 ÷ (Desired Ratio) = Ounces of oil for every 1 gallon of fuel.
- 128 ÷ 40 (20:1 Ratio) = 3.2 ounces of oil for every 1 gallon of fuel.

Always mix ratio in 5 gallon increments.

Gasoline Volatility

Maximum Reid Vapor		Ambient Air Temp Range	
CLASS	PRESSURE	LOW	HIGH
A	7.0 psi (0.5 bar)	60°F (16°C)	110°F+ (43°C+)
B	9.0 psi (0.6 bar)	50°F (10°C)	110°F (43°C)
C	10.5psi (0.7 bar)	40°F (4°C)	97°F (36°C)
D	12.0psi (0.8 bar)	30°F (-1°C)	85°F (29°C)
E	13.5psi (0.9 bar)	20°F (-7°C)	69°F (21°C)
Add 2.45°F for each 1000 ft (305m) above sea level			

When gasoline is blended, it is given a Reid Vapor Pressure (RVP) number which reflects its ability to vaporize or mix with air at a given temperature range. Gasoline vapor pressure is measured by putting a sample of fuel inside a closed container and applying a specified amount of heat to the container for a certain amount of time. RVP will vary from about 7.0 PSI during the summer to approximately 13.5 PSI during the colder months. Service stations selling a large volume of fuel will normally have the correct blend to work well at all times throughout the year in their local area.

When the weather is very cold, gasoline must be able to vaporize very quickly in order for an engine to start and warm up properly. If summer blend fuel is being used in the winter, little or no vaporization will occur. Droplets will form causing flooding and very hard starting.

If winter blend fuel is being used during the summer months, it may cause vapor lock (boiling fuel) inside the fuel lines, fuel pump, or carburetor. This will cause warm engine drive ability problems and hard starting when warm.

SAE Tap Drill Sizes

Thread Size/ Drill Size		Thread Size / Drill Size	
#0-80	3/64	1/2-13	27/64
#1-64	53	1/2-20	29/64
#1-72	53	9/16-12	31/64
#2-56	51	9/16-18	33/64
#2-64	50	5/8-11	17/32
#3-48	5/64	5/8-18	37/64
#3-56	45	3/4-10	21/32
#4-40	43	3/4-16	11/16
#4-48	42	7/8-9	49/64
#5-40	38	7/8-14	13/16
#5-44	37	1-8	7/8
#6-32	36	1-12	59/64
#6-40	33	1 1/8-7	63/64
#8-32	29	1 1/8-12	1 3/64
#8-36	29	1 1/4-7	1 7/64
#10-24	24	1 1/4-12	1 11/64
#10-32	21	1 1/2-6	1 11/32
#12-24	17	1 1/2-12	1 27/64
#12-28	4.6mm	1 3/4-5	1 9/16
1/4-20	7	1 3/4-12	1 43/64
1/4-28	3	2-4 1/2	1 25/32
5/16-18	F	2-12	1 59/64
5/16-24	I	2 1/4-4 1/2	2 1/32
3/8-16	O	2 1/2-4	2 1/4
3/8-24	Q	2 3/4-4	2 1/2
7/16-14	U	3-4	2 3/4
7/16-20	25/64		

Metric Tap Drill Sizes

Tap Size	Drill Size	Decimal Equivalent	Nearest Fraction
3x.50	#39	0.0995	3/32
3x.60	3/32	0.0937	3/32
4x.70	#30	0.1285	1/8
4x.75	1/8	0.125	1/8
5x.80	#19	0.166	11/64
5x.90	#20	0.161	5/32
6x1.00	#9	0.196	13/64
7x1.00	16/64	0.234	15/64
8x1.00	J	0.277	9/32
8x1.25	17/64	0.265	17/64
9x1.00	5/16	0.3125	5/16
9x1.25	5/16	0.3125	5/16
10x1.25	11/32	0.3437	11/32
10x1.50	R	0.339	11/32
11x1.50	3/8	0.375	3/8
12x1.50	13/32	0.406	13/32
12x1.75	13/32	0.406	13/32

Decimal Equivalents

1/64		.0156	
	1/32	.0312	1 mm= .0394"
3/64		.0469	
	1/16	.0625	
5/64		.0781	2 mm = .0787"
	3/32	.0938	
7/64		.1094	3 mm =.1181"
	1/8	.1250	
9/64		.1406	
	5/32	.1563	4 mm = .1575"
11/64		.1719	
	3/16	.1875	5mm= .1969"
13/64		.2031	
	7/32	.2188	
15/64		.2344	6 mm = .2362"
	1/4	.25	
17/64		.2656	7 mm = .2756"
	9/32	.2813	
19/64		.2969	
	5/16	.3125	8mm= .3150"
21/64		.3281	
	11/32	.3438	9 mm = .3543"
23/64		.3594	
	3/8	.375	
25/64		.3906	10 mm = .3937"
	13/32	.4063	
27/64		.4219	11 mm =.4331"
	7/16	.4375	
29/64		.4531	
	15/32	.4688	12 mm = .4724"
31/64		.4844	
	1/2	.5	13mm = .5118"
33/64		.5156	
	17/32	.5313	
35/64		.5469	14 mm = .5512"
	9/16	.5625	
37/64		.5781	15 mm = .5906"
	19/32	.5938	
39/64		.6094	
	5/8	.625	16mm=. 6299"
41/64		.6406	
	21/32	.6563	17 mm =.6693"
43/64		.6719	
	11/16	.6875	
45/64		.7031	18 mm = .7087"
	23/32	.7188	
47/64		.7344	19 mm = .7480"
	3/4	.75	
49/64		.7656	
	25/32	.7813	20 mm = .7874"
51/64		.7969	
	13/16	.8125	21 mm =.8268"
53/64		.8281	
	27/32	.8438	
55/64		.8594	22 mm = .8661"
	7/8	.875	
57/64		.8906	23 mm = .9055"
	29/32	.9063	
59/64		.9219	
	15/16	.9375	24 mm = .9449"
61/64		.9531	
	31/32	.9688	25 mm = .9843"
63/64		.9844	
	1	1.0	

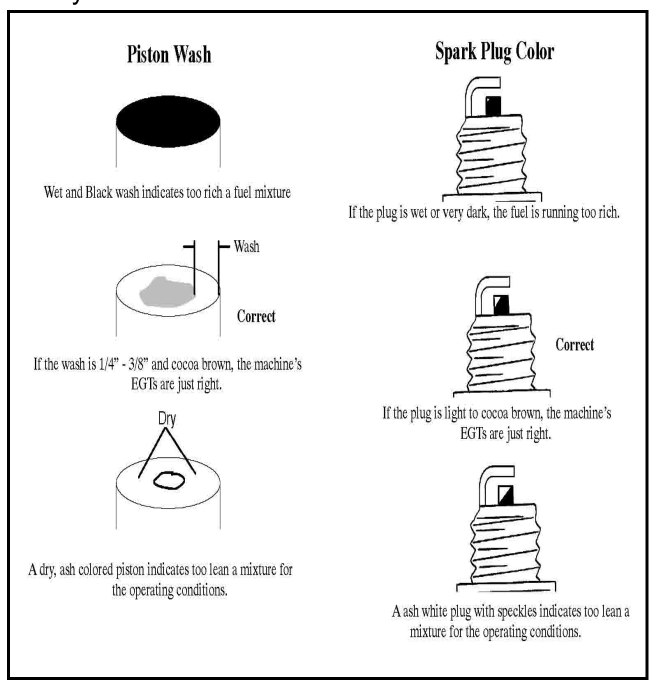
Measurement Conversion Chart

UNIT OF MEASURE	MULTIPLIED BY	CONVERTS TO
ft-lb	x 12	= in-lb
in-lb	x.0833	= ft-lb
ft-lb	x 1.356	= N-m
in-lb	x.0115	= kg-m
N-m	x.7376	= ft-lb
kg-m	x 7.233	= ft-lb
kg-m	x 86.796	= in-lb
kg-m	x 10	= N-m
in	x 25.4	= mm
mm	x.03937	= in
in	x 2.54	= cm
mile	x 1.6	= km
km	x.6214	= mile
Ounces (oz)	x 28.35	= grams (g)
grams (g)	x.035	= Ounces (oz)
cc's	x.03381	= Fluid Ounces (oz)
lbs	x.454	= kg
kg	x 2.2046	= lbs
Cubic Inches	x 16.387	= Cubic Centermeters
Cubic Centimeters	x.061	= Cubic Inches
Imperial pints	x.568	= liters (l)
liters (l)	x 1.76	= Imperial pints
Imperial quarts	x 1.137	= liters (l)
liters (l)	x.88	= Imperial quarts
Imperial quarts	x 1.201	= US quarts
US quarts	x.833	= Imperial quarts
US quarts	x.946	= liters
liters	x 1.057	= US quarts
US gallon	x 3.785	= liter
liter	x.264	= US gallon
Pounds force per square inch (psi)	x 6.895	= Kilo pascals (kPa)
Kilo pascals (kPa)	x.145	= Pounds force per square inch (psi)

Piston Wash / Spark Plug Reading

Changing temperature, barometer, altitude, and fuel supply are just a few of the factors that can affect the day to day performance of your engine. That is why using Exhaust Gas Temperatures (EGT) are important for maintaining optimum performance. There are two methods for helping you determine what the EGTs are for your machine. Piston wash and the coloring of your spark plug.The piston wash is by far the most valuable tool in concluding EGTs, with the spark plug color running a distant second. Use the illustrations below to help you establish the EGTs for your machine.

Once the proper jetting is established, you can reference the EGT gauge for your baseline numbers. Then, if there is a rise or fall of 25 degrees, you must jet accordingly to return your EGTs to the baseline numbers.



SERVICE PRECAUTIONS

GENERAL PRECAUTIONS

In order to perform service work efficiently and to prevent costly errors, the technician should read the text in this manual, thoroughly familiarizing him/herself with procedures before beginning. Photographs and illustrations have been included with the text as an aid. Notes, cautions and warnings have also been included for clarification of text and safety concerns. However, a knowledge of mechanical theory, tool use and shop procedures is necessary to perform the service work safely and satisfactorily. Use only genuine Polaris service parts.

CAUTION

Cleanliness of parts and tools as well as the work area is of primary importance. Dirt and foreign matter will act as an abrasive and cause damage to precision parts. Clean the snowmobile before beginning service. Clean new parts before installing.

Watch for sharp edges which can cause personal injury, particularly in the area of the tunnel. Protect hands with gloves when working with sharp components.

CAUTION

If difficulty is encountered in removing or installing a component, look to see if a cause for the difficulty can be found. If it is necessary to tap the part into place, use a soft face hammer and tap lightly.

CAUTION

Some of the fasteners in the snowmobile were installed with locking agents. Use of impact drivers or wrenches will help avoid damage to fasteners.

CAUTION

Always follow torque specifications as outlined throughout this manual. Incorrect torquing may lead to serious machine damage or, as in the case of steering components, can result in injury or death for the rider(s).

CAUTION

If a torquing sequence is indicated for nuts, bolts or screws, start all fasteners in their holes and hand tighten. Then, following the method and sequence indicated in this manual, tighten evenly to the specified torque value. When removing nuts, bolts or screws from a part with several fasteners, loosen them all about 1/4 turn before removing them.

CAUTION

If the condition of any gasket or O-Ring is in question, replace it with a new one. Be sure the mating surfaces around the gasket are clean and smooth in order to avoid leaks.

CAUTION

Some procedures will require removal of retaining rings or clips. Because removal weakens and deforms these parts, they should always be replaced with new parts. When installing new retaining rings and clips use care not to expand or compress them beyond what is required for installation.

CAUTION

Because removal damages seals, replace any oil or grease seals removed with new parts.

CAUTION

Polaris recommends the use of Polaris lubricants and greases, which have been specially formulated for the top performance and best protection of our machines. In some applications, such as the engine, warranty coverage may become void if other brands are substituted.

CAUTION

Grease should be cleaned from parts and fresh grease applied before reassembly of components. Deteriorating grease loses lubricity and may contain abrasive foreign matter.

NOTES